

WHAT IS CLAIMED IS:

1. A picture data reproducing apparatus which reproduces compressed picture data recorded to a recording medium according the MPEG standard, the apparatus comprising:

a storage means for storing compressed picture data read from a recording medium;

an STC generating means for generating, for a normal-speed reproduction, STC (STC_d) sequentially from a set initial value, wherein the STC (STC_d) is delayed a fixed time (System_{delay}) from STC (STC_{medium}) of the compressed picture data read from the recording medium;

a read control means for sequentially reading compressed picture data stored in the storage means on the basis of STC_d generated by the STC generating means; and

a decoding means for decoding the compressed picture data read by the read control means to generate picture data for display;

the STC generating means setting, at shift from a variable-speed reproduction to normal-speed reproduction, the initial value on the basis of a result of comparison between PTS (PTS_s) of the display picture data at the shift and STC_{medium} at the shift - (amount of delay due to the shift (shift_{delay}) + System_{delay}).

2. The apparatus as set forth in claim 1, wherein the STC generating means sets the initial value as "STC_{medium} at the time of shift - (shift_{delay} + System_{delay})" at the shift from the variable-speed reproduction to normal-speed

reproduction when the following requirement is met:

$$\text{PTS}_s \geq \{\text{STC_medium at the time of shift} - (\text{shift_delay} + \text{System_delay})\}$$

3. The apparatus as set forth in claim 2, further comprising a shifting means for shifting the recording medium reproduction mode from the variable-speed reproduction to normal-speed reproduction at a time set as the initial value by the STC generating means in units of a picture or in units of a GOP (group of pictures).

4. The apparatus as set forth in claim 1, wherein the STC generating means sets the initial value as PTS_s at the shift from the variable-speed reproduction to normal-speed reproduction when the following requirement is met:

$$\text{PTS}_s < \{\text{STC_medium at the time of shift} - (\text{shift_delay} + \text{System_delay})\}$$

5. The apparatus as set forth in claim 4, further comprising a shifting means for shifting the recording medium reproduction mode from the variable-speed reproduction to normal-speed reproduction in units of a picture or in units of a GOP (group of pictures) at a time delayed a time “adjust_delay” defined as given below from a time when the STC generating means sets the initial value:

$$\text{Delay time (adjust_delay)} = (\text{STC_medium at the shift} - \text{PTS}_s) - (\text{shift_delay} + \text{System_delay})$$

6. The apparatus as set forth in claim 1, further comprising a TS packetizing means for TS-packetizing of only compressed picture data to be

reproduced in the normal-speed reproduction mode.

7. A picture data reproducing method of reproducing compressed picture data recorded to a recording medium according the MPEG standard, the method comprising the steps of:

storing compressed picture data read from a recording medium;

generating, for a normal-speed reproduction, STC (STC_d) sequentially from a set initial value, wherein the STC (STC_d) is delayed a fixed time (System_{delay}) from STC (STC_{medium}) of the compressed picture data read from the recording medium;

sequentially reading compressed picture data stored in the storage means correspondingly STC_d generated by the STC generating means; and

decoding the compressed picture data read by the read control means to generate picture data for display;

in the STC generating step, the initial value being set at shift from a variable-speed reproduction to normal-speed reproduction on the basis of a result of comparison between PTS (PTS_s) of the display picture data at the shift and STC_{medium} - (amount of delay due to the shift (shift_{delay}) + System_{delay}).

8. The method as set forth in claim 7, wherein in the STC generating step, there is set the initial value as “STC_{medium} at the time of shift - (shift_{delay} + System_{delay})” at the shift from the variable-speed reproduction to normal-speed reproduction when the following requirement is met:

$$PTS_s \geq \{STC_medium \text{ at the time of shift} - (\text{shift_delay} + \text{System_delay})\}$$

9. The method as set forth in claim 8, further comprising a shifting step of shifting the recording medium reproduction mode from the variable-speed reproduction to normal-speed reproduction at a time set as the initial value in the STC generating step in units of a picture or in units of a GOP (group of pictures).

10. The method as set forth in claim 7, wherein in the STC generating step, there is set the initial value as PTS_s at the shift from the variable-speed reproduction to normal-speed reproduction when the following requirement is met:

$$PTS_s < \{STC_medium \text{ at the time of shift} - (\text{shift_delay} + \text{System_delay})\}$$

11. The method as set forth in claim 10, further comprising a shifting step of shifting the recording medium reproduction mode from the variable-speed reproduction to normal-speed reproduction in units of a picture or in units of a GOP (group of pictures) at a time delayed a time “adjust_delay” defined as given below from a time when in the STC generating step, there is set the initial value:

$$\text{Delay time (adjust_delay)} = (STC_medium \text{ at the shift} - PTS_s) - (\text{shift_delay} + \text{System_delay})$$

12. The method as set forth in claim 7, further comprising a TS packetizing step of TS-packetizing of only compressed picture data to be reproduced in the normal-speed reproduction mode.